

## E-BAM Plus

### REAL-TIME PARTICULATE MONITOR



**The E-BAM Plus is a portable, real-time beta gauge built to satisfy users, regulators and those from the health community by providing truly accurate, precise and automatic measurement of fine particulate matter. (Accuracy exceeds US EPA PM<sub>10</sub> FEM requirements, range 0 to 10 mg/m<sup>3</sup>.)**

The E-BAM Plus automatically measures and records airborne PM<sub>10</sub> or PM<sub>2.5</sub> particulate concentration levels using the principle of beta ray attenuation. This method provides a simple determination of concentration in units of milligrams of particulate per cubic meter of air.

### FEATURES

- Lightweight, suitcase-sized portability
- 15 minute rapid deployment
- Sturdy construction, weatherproof enclosure (temp range - 25 to +50°C)
- Mains powered or optional solar powered system
- Internal data logger
- External AC vacuum pump standard
- Real-time PM<sub>10</sub> concentration
- US EPA & AS/NZ Standards compliant monitor for PM<sub>10</sub>
- Temperature/RH/Pressure sensor
- Volumetric flow control.

### APPROVALS

- US EPA approval

### BENEFITS

The E-BAM Plus is designed as a simple, compact and self-contained beta gauge, for portable applications where rapid deployment and short interval real-time measurements are required. Deployed in approximately 15 minutes.

- Reliable performance complemented with a one year warranty
- Accuracy and precision approval with US EPA requirements for PM<sub>10</sub> measurement
- Real-time, accurate results without correction factors, regardless of season or geographic location
- True ambient sampling provides accurate measurement of semi-volatile nitrates and organic compounds
- Rugged, lightweight construction is easily mounted on a tripod in minutes
- All-weather construction allows for true ambient sampling
- Operates on 115 / 240 AC or 12 VDC (optional)
- Easy setup through an intuitive menu system, advanced GUI and a touchscreen display.

## SPECIFICATIONS

<b>Range: Concentration</b>	- 15 µg/m <sup>3</sup> to 10 mg/m <sup>3</sup>
<b>units: Measurement</b>	µg/m <sup>3</sup> or mg/m <sup>3</sup>
<b>cycle:</b>	Hourly measurements, time resolution to 1 minute
<b>Noise:</b>	(2σ) (24 hour) Less than 1 µg/m <sup>3</sup>
<b>Lower detectable limit:</b>	(2σ) (1 hour) Less than 10 µg/m <sup>3</sup> (2σ) (24 hour) Less than 2 µg/m <sup>3</sup>
<b>Accuracy:</b>	Exceeds US EPA Class III PM <sub>10</sub> FEM standards for additive and multiplicative bias
<b>Resolution:</b>	1 µg/m <sup>3</sup>
<b>Sample time:</b>	1 hour
<b>STP reference:</b>	0 °C, 20 °C, 25 °C at 101.3 kPa
<b>Sample flow rate:</b>	16.7 L/min inlet flow rate; actual volumetric flow
<b>Temperature range:</b>	- 25 to 40 °C
<b>Humidity range:</b>	0 to 90 % RH; noncondensing
<b>Inlet humidity control:</b>	Actively controlled inlet heater module; 0 to 50 °C filter temperature set point
<b>Operating power:</b>	100 - 240 VAC, 50 - 60 Hz (autoranging)
<b>Power consumption:</b>	460 W 3 A @ 115 VAC, 2 A @ 230 VAC
<b>Dimensions:</b>	410 x 460 x 310 mm
<b>Weight top unit:</b>	15.9 kg
<b>Weight pump box:</b>	18.1 kg
<b>Weight total:</b>	34.0 kg
<b>External sensor:</b>	Met One Model 597
• Ambient temperature	- 50 to 70 °C
• Relative humidity	0 to 98 % RH
• Barometric pressure	375 to 825 mmHg



## COMMUNICATION

### Analog output

- Menu selectable 4 - 20 mA or 0 - 1 VDC, 0 - 2.5 VDC or 0 - 5 VDC

### Alarm output

- 1 channel; dry normally open contact;  
1 A at 125 VAC or 60 VDC maximum
- Filter, flow, power and operation failure

### Serial interface

- RS-485; 2 channels; half duplex
- RS-232 and USB; 1 channels; full duplex  
(shared common serial output)

### Baud rates

- 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200

### Compatible software

- Airodis™, Congrego™

## DATA LOGGING

### Internal data logger

- 8 days when set to 1 minute average
- 1.3 years set to 60 min average

### External data storage

- 1 USB flash drive device

## OPTIONS & ACCESSORIES

- Volumetric Flow Calibration Kit
- Zero Calibration Kit
- TSP Inlet
- PM<sub>10</sub> Inlet Head (EPA specification)
- PM<sub>2.5</sub> Sharp-Cut Cyclone
- Wind Speed and Direction Sensor
- Sonic Wind Speed and Direction Sensor
- Ambient Temp, RH and Barometric Pressure Sensor
- Filter Tape, Roll
- External Pump (240 or 110 VAC)
- Printed User Manual (a soft copy of the user manual is supplied on the ECOTECH resources USB stick with each analyser).

**Pictured left: E-BAM Plus Solar.**  
**Real-time PM<sub>10</sub> monitoring.**  
**AS/NZS 3580.9.11-2008.**  
**Solar, battery or mains powered.**  
**Internal logging of wind sensor data.**  
**Rugged construction.**  
**Compact weatherproof enclosure.**  
**Operating range - 25 to 50 °C.**  
**3 monthly calibration interval.**

